

## CLAIMS

1. A tapping screw comprising a head portion and a shaft  
portion extending from said head portion, and forming a female  
5 screw in a prepared hole formed in an attached member while  
the tip portion of said shaft portion is screwed into said  
prepared hole;

wherein said shaft portion has:

a columnar constant diameter portion extending from said  
10 head portion and having a constant diameter;

a reduced diameter portion of a truncated cone shape  
extending from the tip of said constant diameter portion in  
the direction opposed to said head portion, and reduced in  
diameter as it is advanced in the direction opposed to said  
15 head portion; and

a spiral screw thread continuously formed over the outer  
circumferential face of said constant diameter portion and the  
outer circumferential face of said reduced diameter portion;

plural notch portions are formed in a specific area of  
20 said screw thread in the circumferential direction of said shaft  
portion; and

said notch portion has a notch face, a rising wall and  
a corner portion.

2. The tapping screw according to claim 1, wherein said  
25 notch face has a stem face notched and formed on the diametrical

inside from the top of said screw thread.

3. The tapping screw according to claim 1, wherein said rising wall is approximately perpendicular to the screw rotating direction.

5        4. The tapping screw according to claim 1, wherein said corner portion is formed at a diametrical outside end of said rising wall.

10       5. The tapping screw according to claim 2, wherein said stem face has one end connected in a position moved a predetermined angle  $\alpha$  from said corner portion to the backward side in the rotating direction, and also has a surface moved in the diametrical inside direction as it proceeds to the backward side in the rotating direction, and further has the other end connected to the end portion of said rising wall on  
15 its diametrical inside.

6. The tapping screw according to claim 1, wherein said screw thread is left in said specific area.

7. The tapping screw according to claim 1, wherein the top of said screw thread is shaved in said specific area.

20       8. The tapping screw according to claim 2, wherein the screw thread low in height on said stem face is left in said specific area.

9. A tapping screw comprising a head portion and a shaft portion extending from said head portion, and forming a female  
25 screw in a prepared hole formed in an attached member while

the tip portion of said shaft portion is screwed into said prepared hole;

wherein said shaft portion has:

a columnar constant diameter portion extending from said  
5 head portion and having a constant diameter;

a reduced diameter portion of a truncated cone shape  
extending from the tip of said constant diameter portion in  
the direction opposed to said head portion, and reduced in  
diameter as it is advanced in the direction opposed to said  
10 head portion; and

a spiral screw thread continuously formed over the outer  
circumferential face of said constant diameter portion and the  
outer circumferential face of said reduced diameter portion;  
and

15 the outer shape seen from the axial direction of said  
screw thread is set to be non-circular in the specific area  
of said screw thread.

10. The tapping screw according to claim 9, wherein the  
outer shape of said constant diameter portion seen from the  
20 axial direction of said screw thread is set to be non-circular  
over a predetermined range in the axial direction from the  
boundary of said constant diameter portion and said reduced  
diameter portion.

11. The tapping screw according to claim 9, wherein the  
25 shape of said screw thread seen from its axial direction is

a square shape, and the screw thread formed in the outer circumferential portion of said shaft portion and including the screw thread of the square outer shape seen from the axial direction rises in all forming areas without breaking its top  
5 portion.